MSU Weed Science Research Program

Comparison of preharvest treatments for dry bean desiccation - SVREC

Trial ID: DB09-25 Study Dir.: Stiles, Sprague
Conducted: SVREC Investigator: Christy Sprague

Planting Date:	Jun-13-2025	**Row Spacing:**	30 IN
Variety:	'Viper' small red bean	**No. of Reps:**	4
Population:	109000 S/A	**% OM:**	2.3
Soil Type:	CL clay loam	**pH:**	7.5
Plot Size:	10 X 28 FT	**Study Design:**	Randomized Complete Block (RCB)

Tillage/Previous Crops: Fall chisel plow: spring cultivated.
Fertilizer:

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1			

Crop	Code	Common Name
1	PHSVX	dry bean

Application Description

	A
Application Timing:	PREHARV
Date Treated:	Sep-2-2025
Time Treated:	2:00 PM
% Cloud Cover:	25
Air Temp., Unit:	75 F
% Relative Humidity:	50
Wind Speed/Unit/Dir:	2 MPH E
Soil Temp, Unit:	68 F
Leaf Moist/Dew Presence (Y/N):	N
Soil Moist:	5

Crop Stage at Each Application

	A
Crop 1 Name:	PHSVX
Height:	18-20 IN (20)
Stage:	80%Y-

Weed Stage at Each Application

	A
Weed 1 Name:	
Height:	
Stage:	

Application Equipment

Appl	Sprayer Type	Ground Speed	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	Spray Volume	Carrier	Operation Pressure
A	CUB	3.8 MPH	AIXR	11002	36.0 "	20.0 "	100.0 "	19 GAL/AC	WATER	40 PSI

Comments:
Desiccation treatments were applied at 80% yellow pods. Viper small red beans are known to have pods mature prior to leaves yellowing. Weed control = Eptam (1 qt/A) + Dual II Magnum (1.33 pt/A) + Satelite Hydrocap (1 qt/A) PPI on May 28. Fertilizer = 330 lb/A of 16-16-13 broadcast and incorported on May 27.

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Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Appl Timing	Sep-5-2025 leaf % C, PHSVX 3 DA-A 0	Sep-5-2025 stem % C, PHSVX 3 DA-A 0	Sep-5-2025 pod % C, PHSVX 3 DA-A 0	Sep-5-2025 whole plant % C, PHSVX 3 DA-A 0	Sep-9-2025 leaf % C, PHSVX 7 DA-A 0	Sep-9-2025 stem % C, PHSVX 7 DA-A 0	Sep-9-2025 pod % C, PHSVX 7 DA-A 0
1	Reviton	1	fl oz/a	A	PREHARV	74	81	83	73	78	94	95
	MSO	1	% v/v	A	PREHARV							
	AMS	8.5	lb/100 gal	A	PREHARV							
2	Reviton	1.5	fl oz/a	A	PREHARV	71	84	83	71	76	92	97
	MSO	1	% v/v	A	PREHARV							
	AMS	8.5	lb/100 gal	A	PREHARV							
3	Reviton	2	fl oz/a	A	PREHARV	74	85	85	72	79	96	97
	MSO	1	% v/v	A	PREHARV							
	AMS	8.5	lb/100 gal	A	PREHARV							
4	Untreated					55	80	80	56	59	83	85
5	Sharpen	1	fl oz/a	A	PREHARV	73	85	87	74	76	90	97
	MSO	1	% v/v	A	PREHARV							
	AMS	8.5	lb/100 gal	A	PREHARV							
6	Sharpen	1.5	fl oz/a	A	PREHARV	73	86	85	72	78	91	97
	MSO	1	% v/v	A	PREHARV							
	AMS	8.5	lb/100 gal	A	PREHARV							
7	Sharpen	2	fl oz/a	A	PREHARV	78	85	85	78	82	94	96
	MSO	1	% v/v	A	PREHARV							
	AMS	8.5	lb/100 gal	A	PREHARV							
8	Helmquat	12.8	fl oz/a	A	PREHARV	60	83	85	65	63	88	87
	Surfactant	0.25	% v/v	A	PREHARV							
	AMS	3	lb/a	A	PREHARV							
9	Helmquat	20.8	fl oz/a	A	PREHARV	68	82	85	69	72	83	83
	Surfactant	0.25	% v/v	A	PREHARV							
	AMS	3	lb/a	A	PREHARV							
10	Valor SX	3	oz/a	A	PREHARV	67	84	85	68	71	89	94
	MSO	1	% v/v	A	PREHARV							
	AMS	8.5	lb/100 gal	A	PREHARV							
11	Sharpen	1	fl oz/a	A	PREHARV	80	85	84	81	83	91	92
	Helmquat	21	fl oz/a	A	PREHARV							
	MSO	1	% v/v	A	PREHARV							
	AMS	8.5	lb/100 gal	A	PREHARV							
12	Defol 5	2.4	qt/a	A	PREHARV	84	76	86	76	87	78	81
	MSO	1	% v/v	A	PREHARV							
LSD P=.05						6.7	2.8	1.0	6.0	6.6	4.9	5.5
Standard Deviation						4.7	1.9	0.7	4.2	4.6	3.4	3.8
CV						6.54	2.32	0.82	5.86	6.12	3.86	4.16

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Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Appl Timing	Sep-9-2025 whole plant % C, PHSVX 7 DA-A 0	Sep-9-2025 leaf drop % C, PHSVX 7 DA-A 0	Sep-15-2025 leaf % C, PHSVX 13 DA-A 0	Sep-15-2025 stem % C, PHSVX 13 DA-A 0	Sep-15-2025 pod % C, PHSVX 13 DA-A 0	Sep-15-2025 whole plant % C, PHSVX 13 DA-A 0	Sep-15-2025 leaf drop % C, PHSVX 13 DA-A 0
1	Reviton	1	fl oz/a	A	PREHARV	78	45	100	98	100	100	80
	MSO	1	% v/v	A	PREHARV							
	AMS	8.5	lb/100 gal	A	PREHARV							
2	Reviton	1.5	fl oz/a	A	PREHARV	76	49	99	99	100	100	84
	MSO	1	% v/v	A	PREHARV							
	AMS	8.5	lb/100 gal	A	PREHARV							
3	Reviton	2	fl oz/a	A	PREHARV	79	46	100	100	100	100	85
	MSO	1	% v/v	A	PREHARV							
	AMS	8.5	lb/100 gal	A	PREHARV							
4	Untreated					61	60	88	91	96	95	86
5	Sharpen	1	fl oz/a	A	PREHARV	78	48	95	96	98	98	88
	MSO	1	% v/v	A	PREHARV							
	AMS	8.5	lb/100 gal	A	PREHARV							
6	Sharpen	1.5	fl oz/a	A	PREHARV	75	49	99	99	100	100	84
	MSO	1	% v/v	A	PREHARV							
	AMS	8.5	lb/100 gal	A	PREHARV							
7	Sharpen	2	fl oz/a	A	PREHARV	83	48	100	98	100	100	85
	MSO	1	% v/v	A	PREHARV							
	AMS	8.5	lb/100 gal	A	PREHARV							
8	Helmquat	12.8	fl oz/a	A	PREHARV	66	49	96	95	97	97	90
	Surfactant	0.25	% v/v	A	PREHARV							
	AMS	3	lb/a	A	PREHARV							
9	Helmquat	20.8	fl oz/a	A	PREHARV	73	60	98	97	99	98	91
	Surfactant	0.25	% v/v	A	PREHARV							
	AMS	3	lb/a	A	PREHARV							
10	Valor SX	3	oz/a	A	PREHARV	72	41	99	98	100	100	88
	MSO	1	% v/v	A	PREHARV							
	AMS	8.5	lb/100 gal	A	PREHARV							
11	Sharpen	1	fl oz/a	A	PREHARV	84	43	99	97	98	98	83
	Helmquat	21	fl oz/a	A	PREHARV							
	MSO	1	% v/v	A	PREHARV							
	AMS	8.5	lb/100 gal	A	PREHARV							
12	Defol 5	2.4	qt/a	A	PREHARV	79	50	99	98	98	98	91
	MSO	1	% v/v	A	PREHARV							
LSD P=.05						6.7	5.9	5.7	3.5	2.1	2.3	5.5
Standard Deviation						4.7	4.1	4.0	2.4	1.5	1.6	3.8
CV						6.23	8.39	4.08	2.48	1.5	1.65	4.42

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Rating Date						Sep-17-2025	Sep-17-2025
Rating Type						moisture	yield
Rating Unit						%	cwt/A
Crop Type, Code						C, PHSVX	C, PHSVX
Treatment Appl. Interval							@18% M
Number of Decimals						1	1
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Appl Timing		
1	Reviton	1	fl oz/a	A	PREHARV	15.1	21.9
	MSO	1	% v/v	A	PREHARV		
	AMS	8.5	lb/100 gal	A	PREHARV		
2	Reviton	1.5	fl oz/a	A	PREHARV	14.5	21.7
	MSO	1	% v/v	A	PREHARV		
	AMS	8.5	lb/100 gal	A	PREHARV		
3	Reviton	2	fl oz/a	A	PREHARV	14.5	22.4
	MSO	1	% v/v	A	PREHARV		
	AMS	8.5	lb/100 gal	A	PREHARV		
4	Untreated					16.5	26.3
5	Sharpen	1	fl oz/a	A	PREHARV	15.6	24.7
	MSO	1	% v/v	A	PREHARV		
	AMS	8.5	lb/100 gal	A	PREHARV		
6	Sharpen	1.5	fl oz/a	A	PREHARV	15.0	22.1
	MSO	1	% v/v	A	PREHARV		
	AMS	8.5	lb/100 gal	A	PREHARV		
7	Sharpen	2	fl oz/a	A	PREHARV	13.8	23.6
	MSO	1	% v/v	A	PREHARV		
	AMS	8.5	lb/100 gal	A	PREHARV		
8	Helmquat	12.8	fl oz/a	A	PREHARV	16.3	24.3
	Surfactant	0.25	% v/v	A	PREHARV		
	AMS	3	lb/a	A	PREHARV		
9	Helmquat	20.8	fl oz/a	A	PREHARV	15.9	25.1
	Surfactant	0.25	% v/v	A	PREHARV		
	AMS	3	lb/a	A	PREHARV		
10	Valor SX	3	oz/a	A	PREHARV	15.6	25.2
	MSO	1	% v/v	A	PREHARV		
	AMS	8.5	lb/100 gal	A	PREHARV		
11	Sharpen	1	fl oz/a	A	PREHARV	14.9	22.5
	Helmquat	21	fl oz/a	A	PREHARV		
	MSO	1	% v/v	A	PREHARV		
	AMS	8.5	lb/100 gal	A	PREHARV		
12	Defol 5	2.4	qt/a	A	PREHARV	16.4	25.2
	MSO	1	% v/v	A	PREHARV		
LSD P=.05						1.06	2.51
Standard Deviation						0.74	1.75
CV						4.81	7.35